TAHERA DIAMOND CORPORATION

Table 6-3: Post-Closure Estimates of Pit Water Quality

Discharge Scenario	TDS mg/L	TSS	Alk	Ca	Cl	K	Mg	Na	SO4	TAl* mg/L
Discharge from Pit Lake without Stream C1 1	372	2	16	38	161	13	62	8	70	0.15
Long-term Discharge from Pit Lake with Stream C1 2redirected to pit.	231	2	14	24	96	8	37	5	42	0.13
CCME Aquatic Life Guidelines	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*0.1*
Health Canada Guidelines	*500*	*na*	*na*	*na*	*250*	*na*	*na*	*na*	*500*	*0.1*
Carat Lake Baseline Data	*11*	*1.4*	*4.7*	*2.3*	*3.4*	*2.0*	*0.8*	*2.0*	*1.2*	*0.052*

Discharge Scenario	TAs mg/L	TCd mg/L	TCr mg/L	TCu mg/L	TFe* mg/L	TMo mg/L	TNi mg/L	TPb mg/L	TU mg/L	TZn mg/L
Discharge from Pit Lake without Stream C1 1	0.0005	0.0003	0.0017	0.009	0.20	0.032	0.015	0.0020	0.063	0.006
Long-term Discharge from Pit Lake with Stream C1 2redirected to pit.	0.0004	0.0002	0.0012	0.007	0.24	0.019	0.009	0.0013	0.038	0.004
CCME Aquatic Life Guidelines	*0.005*	*1.7E-05*	*0.0089*	*0.002*	*0.3*	*0.073*	*0.025*	*0.001*	*na*	*0.03*
Health Canada Guidelines	*0.025*	*0.005*	*0.05*	*1.0*	*0.3*	*na*	*na*	*0.01*	*0.02*	*5*
Carat Lake Baseline Data	*0.00016*	*0.00005*	*0.0025*	*0.0020*	*0.025*	*0.00005*	*0.0005*	*0.00005*	*0.00020*	*0.0020*

Notes:

Assumptions and Calculations are provided in SRK (2004a)

1Assumes all sources of water entering the pit have reached post-closure water quality by the start of filling
2Reflects mixed water quality in the pit in the long term, once steady-state mixing has been reached (approximately 30 years after pit is filled)

6.4.4 PKCA

6.4.4.1 Reclamation

During operation, the PKCA will be progressively filled from east to west (Site Water Management Plan, Tahera 2005). As areas are filled to design height, they will be covered by a 0.3 to 0.5 m layer of coarse kimberlite to act as a filter for runoff and to improve drainage characteristics of the cap. Coarse kimberlite will be taken from the stockpile for reclamation. The plant front end loader and dump trucks will be used for this operation. Once the coarse kimberlite buffer is placed, one of three scenarios will follow:

1. If vegetation trials indicate vegetation can be successfully established on the coarse kimberlite, finished areas will be revegetated. Ekati has had some success at planting directly onto dried fine kimberlite in the mine's PKCA and, pursuant to further favourable results, PKCA beaches at Jericho will be treated the same way, i.e., by direct planting on the dry beaches. There is some question about the long-term suitability of PK as a growth medium.
2. If vegetation trials indicate overburden promotes successful revegetation, areas will be top dressed with up to 0.3 m of overburden from the overburden stockpile. This will occur in either winter or summer, depending on the driving conditions on the cell. Reclamation costing (Appendix D) conservatively assumes both coarse PK and overburden will be placed on the PKCA at closure.
3. If vegetation cannot be demonstrated to establish successfully, PKCA finished areas will be covered with coarse kimberlite and run-of-mine rock to retard erosion and to provide perching areas for rodents and birds.
4. Revegetation, as indicated from reclamation trials, will take place either in the spring or fall, depending on timing of completion of the overburden placement. Organic overburden will be retained for reclamation of the PKCA as this facility has the best chance of successful revegetation. The proposed facility will occupy a shallow valley, where water naturally collects (a lake and meadows presently occupy the site) and therefore, with the proposed impermeable east and west embankments, can be expected to provide a moist microhabitat for plant growth after closure.

6.4.4.2 Long Term Stability

Long-term stability for the dams and impoundment requires different considerations. Stability after closure will be monitored throughout the closure and post closure period by mine staff and independent geotechnical engineers as a requirement of the mine water licence.

Impoundment

Physical stability of the section of the impoundment containing fine PK will be achieved by placement of coarse PK and top dressing materials if revegetation trials indicate probable success or coarse PK and rock. Chemical stability post closure was discussed in detail in SRK Technical Memorandum P (SRK 2004) submitted to the NWB in support of water licence application. Water in the western end of the PKCA (see Appendix A, Drawing 2 for PKCA anticipated final configuration) is forecast to meet mine discharge criteria; monitoring during operations will provide additional evaluation information. Should the water not meet criteria, the water will be treated until criteria are consistently met.

Should trends in water quality indicate discharge on closure may be problematic, at least one year prior to closure testing of PKCA supernatant water will be undertaken with the goal of selecting a treatment system that will treat the water to Water Licence objectives.

Dams

Stability analyses were completed for all dams which indicated Canadian Dam Association (CDA) guidelines for factors of safety would be met. The performance of the dams will be monitored during operations to verify stability and any adjustments that are required will be made prior to closure. The dams will be inspected annually during operations and post closure by an independent geotechnical engineer until such time as the water licence is cancelled.

East, Southeast and North Dams

All these dams are relatively low structures (maximum 8 m for east and southeast dams and 3 m for the north dam) that will not have water against their upstream faces at closure.

Design details for the east and southeast dams can be found in EBA Engineering (EBA) design reports (EBA 2005 a, b). Preliminary design details for the north dam can be found in SRK (2004d).

Divider Dykes

Design details for the divider dykes can be found in EBA design reports (EBA 2005c, d). The divider dykes on closure will have PK fines and no free water against the upstream face (Divider Dyke B) and both faces (Divider Dyke A). The divider dykes will be inspected post closure by an independent geotechnical engineer until such time as the water licence is cancelled.

A small amount of pore water may be expelled by the freezing process but will have negligible effect on the much larger volume of water in the downstream pond (SRK 2004).

West Dam

Design details for the west dam can be found in EBA 2005 e, f). The west dam is designed to hold water against the upstream face. Long-term thermal and dam stability monitoring will be instituted as part of PKCA operation as recommended by EBA (2005e).

Closure preparation of the west dam is discussed in SRK 2004d and closure procedures will be included in the PKCA Management Plan required by the water licence. At closure, ponded supernatant water will be pumped to Stream C3 if water meets discharge criteria or treated as indicated from operational experience prior to closure to meet these criteria. In order to minimize long-term stability risks, the dam will be breached; the final discharge elevation will be determined as part of final closure planning. The west dam will, therefore, no longer perform or be classified as a dam. The discharge elevation will set so that fine PK in the upstream pond does not wash out through the discharge. Natural discharge from the basin is expected to be restored with these measures.

Figure 6-3, from EBA, provides a conceptual closure spillway located at the north abutment of the West Dam.

6.4.4.3 Alternatives and Contingencies

Alternatives and contingences considered for closure include final disposal of PKCA pond water and methods of breaching the West Dam. No alternatives to recontouring dams were considered.

- Should PKCA pond water not meet Water Licence discharge criteria on closure and no reasonable expectation that water will meet these criteria, water will be pumped to the open pit.

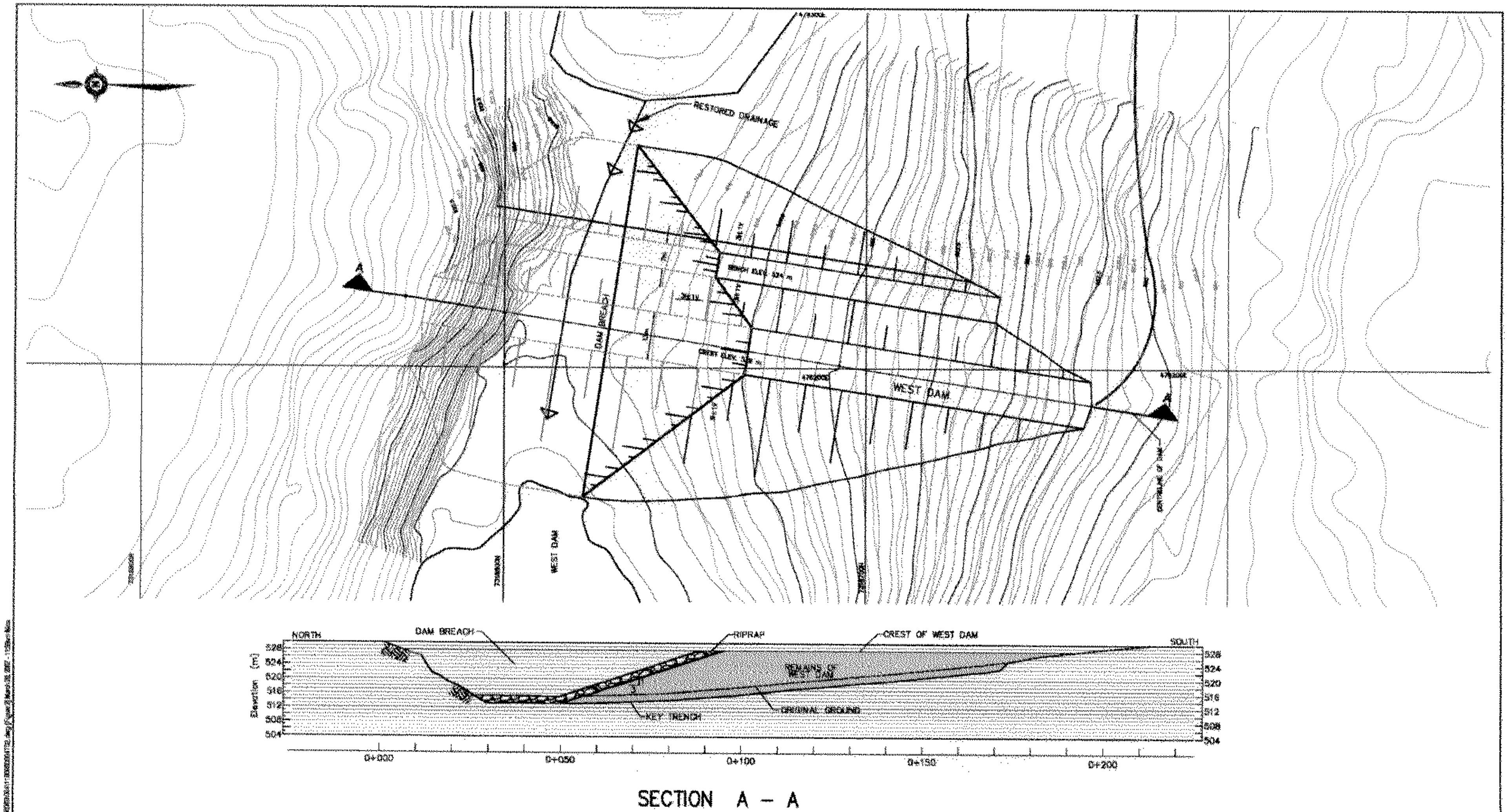
- If nutrient addition, as envisaged as possible treatment for the open pit on filling, promises to bring PKCA pond water to discharge criteria, this treatment will be applied. Should the treatment not be effective, water will then be pumped to the pit. If treatment is effective, water will be pumped from the PKCA pond to the West Pond and from there flow to Lake C3.

- Alternatives to breaching the West Dam that will be considered include the proposed conceptual spillway or breaching the dam approximately in the centre after water is pumped from the PKCA pond, and rock armouring the breach with clean, non-acid-generating run-of-mine rock.

6.4.5 Coarse Kimberlite and Recover Circuit Rejects Stockpiles

6.4.5.1 Final Configuration

As shown in Appendix A, Drawing 2, the current mine plan calls for separation of coarse PK into three stockpiles. This configuration was chosen to allow for better environmental control of the coarse PK, particularly of recovery plant rejects which will be stockpiled immediately south of the PKCA east end. Management of coarse PK is discussed in detail in the Jericho Waste Rock Management Plan, Part 2 (SRK 2006). The remainder of the coarse kimberlite and recovery plant reject stockpiles not used for reclamation will be sloped to approximately 18°, as shown in Figure 6-1, and covered with up to 0.3 m of overburden to prevent dust generation from fines should dusting become problematic (not expected since coarse rejects are thoroughly washed in the processing plant). A small amount of runoff may occur in the spring when the stockpile surface is frozen. A shallow ditch will be constructed on the down slope side of the stockpile to retard export of sediment overland in the initial years after reclamation and prior to surface consolidation. Monitoring will continue at the site through this time allowing sediment removal from ditches if required.



Tahera Diamond Corporation

EBA Engineering Consultants Ltd.

Jericho Project - Closure

Jericho PKCA at Closure
West Dam Breach

DWN	CKD	REV
TK	WTH	1

OFFICE: EBA-EDM

DATE: March, 2007

Figure 6-3

6.4.5.2 Alternatives Considered

Alternatives to overburden cover include rock armouring should overburden cover not prove practical. Based on Ekati experience, direct placement of vegetation on coarse PK is unlikely to be successful. However, creation of microhabitats to prevent sand drifting will be investigated as part of revegetation trials.

6.4.5.3 Long-term Stability

The results of the stability analyses for kimberlite are summarized in Table 6-4. Table 6-5 provides typical factors of safety for waste rock dumps based on the guidelines published by the BC Mine Waste Rock Pile Research Committee in 1991.

The minimum allowable factors of safety have been based on Case B in Table 6-5 for the following reasons:

- Conservative assumptions have been used in the analyses
- The consequences of failure are minimal as they do not involve loss of life or large scale environmental impacts
- The potential failure modes are relatively simple and are well suited to the analytical methods that have been used.

The factor of safety at the face of the stockpile is based on a simple infinite slope analysis. Since the material is end-dumped, the stockpile slope will conform to the angle of repose which in the absence of a water table, means that the dump face has a factor of safety of about 1.

Table 6-4: Summary of Critical Factors of Safety for Kimberlite Stockpile

Stability Condition	Suggested Minimum FOS	Calculated Factor of Safety (FOS)	Comments
Stockpile Surface Short Term	1.0	1.0	Bench face, at angle of repose
Deep Seated Short Term Pseudo-static Pseudo-static	 1.3 1.0 1.0	 1.5/1.4 1.5/1.3 1.5/1.3	During operations, c = 0 kPa Till foundation (low/high water table) Till foundation, acceleration = 0.013g (low/high water table) Till foundation, acceleration = 0.06g (low/high water table)
Deep Seated Short Term Pseudo-static Pseudo-static	 1.3 1.0 1.0	 1.8/1.5 1.8/1.5 1.5/1.5	During operations, c = 10 kPa Till foundation (low/high water table) Till foundation, acceleration = 0.013g (low/high water table) Till foundation, acceleration = 0.06g (low/high water table)

Table 6-5: Guidelines for Minimum Design Factor of Safety – Waste Rock Dumps

Stability Condition	Case A – more severe	Case B – less severe
Stability of Dump Surface Short term (active) Long term (closure)	1.0 1.2	1.0 1.1
Overall stability (deep-seated) Short term (active) Long term (closure) Pseudo-static	1.3 - 1.5 1.5 1.1 - 1.3	1.1 - 1.3 1.3 1.0
Case A: Low level of confidence in critical analysis parameters Possibly unconservative interpretation of conditions, assumptions Severe consequences of failure Simplified stability analysis method (charts, method of slices) Stability analysis method poorly simulates physical conditions Poor understanding of potential failure mechanism(s)		
Case B: High level of confidence in critical analysis parameters Conservative interpretation of conditions, assumptions Minimal consequences of failure Rigorous stability analysis method Stability analysis method simulates physical conditions well High level of confidence in critical failure mechanism(s)		

6.4.6 Ore Stockpile Pad

6.4.6.1 Final Configuration

The ore stockpile pad will be scarified and revegetated if success is indicated from reclamation trials. Overburden will be added to the perimeter of the pad, if reclamation trials indicate probable plant growth success.

6.4.6.2 Alternatives Considered

No alternatives to the proposed reclamation were considered.

6.4.6.3 Long-term Stability

The ore stockpile pad is not proximate to any water bodies, is a low structure (approximately 2 m depth) and any sediment from erosion will simply move out onto the adjacent tundra.

6.4.7 Mine and Access Roads

6.4.7.1 Final Configuration

When no longer required, mine and access roads will be scarified or ripped and possibly revegetated (as discussed above). Road edges will be graded off to form a gentle slope, yet minimize additional disturbance of tundra. The road between the camp and the airstrip will be left in a stable condition until final closure and may be left un-reclaimed at final closure, if requested by a government agency or by a third party who agreed to assume responsibility for its maintenance.

6.4.7.2 Alternatives Considered

No alternatives to closing mine all weather access roads other than indicated in the previous section are contemplated.

6.4.7.3 Long-term Stability

Mine all weather roads are crossed by a number of small, mostly ephemeral, streams. At stream crossings, culverts will be removed, the road approaches pulled back with a backhoe and banks rock armoured to prevent erosion into the streams.

6.4.8 Sediment Ponds, Berms and Ditches

6.4.8.1 Final Configuration

On closure, all mine drainage will be directed to the open pit and sediment ponds, berms and ditches no longer required will be reclaimed. Ditches will be stabilized where they pass through overburden; ditch portions in bedrock will remain as constructed. To the greatest extent possible, ditches will be altered to return drainage to pre-disturbance conditions. For pre-mining areas draining to Lake C1, this would pre-suppose runoff meets CCME guidelines; otherwise, water would be directed to the open pit. Prior to levelling, any sediment in ponds would be removed and placed on one of the dumps, then covered with waste rock or overburden to retard wind or water erosion. Conceptually, all dikes and berms would be flattened and revegetated.

Petroleum tank berms will be treated as hazardous soils and treated as discussed in Section 6.4.12. Liners will be removed, decontaminated and buried along with inert waste in the waste rock dumps or open pit and covered with waste rock. If decontamination of liners is not feasible, they will be transported off site as hazardous waste.

6.4.8.2 Alternatives Considered

No alternatives to reclamation and closure of ponds, berms and ditches were considered.

6.4.8.3 Long-term Stability

Sediment ponds and berms will be removed and the construction materials placed in the waste rock dump. Any remnant of berms or pond dikes left after resloping would be stabilized and revegetated, assuming reclamation trials suggest probable success.

6.4.9 Borrow Areas

6.4.9.1 Final Configuration

Any borrow areas active to the end of mine life will be reclaimed and revegetated as discussed above. Some borrow material may be required for final reclamation and thus this borrow area would be one of the last sites to be reclaimed and revegetated.

6.4.9.2 Alternatives Considered

No alternatives to the proposed reclamation were considered.

6.4.9.3 Long-term Stability

Borrow areas will have shallow sloping banks that should not be subject to erosion. The performance of banks will be monitored when no longer subject to disturbance and banks made more shallow than indicated (between 4:1 and 5:1) if monitoring indicates.

6.4.10 Airstrip

6.4.10.1 Final Configuration

The airstrip will be scarified or ripped and vegetated when no longer required, pursuant to probable success as shown in reclamation trials. However, the strip will be left for others to use, if requested by government agencies or by a third party willing to assume the airstrip land lease. The airstrip will be kept open until final closure for use by Tahera Diamond Corporation reclamation personnel.

6.4.10.2 Alternatives Considered

Other than transfer of the lease for the airstrip to an interested third party, no alternatives to the proposed reclamation were considered.

6.4.10.3 Long-term Stability

Long-term stability concerns for the airstrip include erosion from runoff and wind. The airstrip is located on an esker and no erosion issues were evident on the existing strip which was constructed in 1998. In 2006 the airstrip was lengthened to the north (Drawing 1, Appendix A). The airstrip is not proximate to any water body and no drainages cross the strip. Revegetation, if feasible, will address any stability issues for the airstrip. Because the airstrip is located on an esker vegetation will re-establish in time naturally if short-term vegetation trials prove unsuccessful. Armouring will not be used except in areas that indicate propensity to erode over the life of the airstrip. Armouring will only serve to prevent or greatly slow the revegetation process.

6.4.11 Freshwater Intake Causeway

6.4.11.1 Final Configuration

The causeway will be cut to 2m below the normal summer water level from the northern extent back to a water depth of 3.5m. From 3.5m water depth to 1m the causeway will taper up. The reclaimed causeway will intersect surface near the shoreline.

6.4.11.2 Alternatives Considered

The causeway construction rock has the potential to provide fish habitat if left in the lake as indicated above. Recycling of the rock in this manner will require approval from DFO and will be discussed with the Department one year prior to closure. Alternately, the rock will be pulled back on shore and placed in the waste rock dump.

6.4.11.3 Long-term Stability

Not applicable; the causeway will be largely removed or recycled as fish habitat.

6.4.12 C1 Diversion

6.4.12.1 Final Configuration

The current plan calls for removal of the diversion once the open pit fills and water is found to be of sufficient quality for direct release back into Stream C1. Should this be the case, the head of the diversion will be blocked once the freshwater intake access road is removed and Stream C1 will be re-established in its natural drainage location.

6.4.12.2 Alternatives Considered

The C1 Diversion may need to be kept in place if open pit water must be diverted away from Stream C1 when the pit fills.

The alternative to leaving the C1 Diversion in place is to reblock the head of the diversion channel once the freshwater causeway access road is removed and allow the water to flow in the C1 natural channel which will result in Stream C1 entering the open pit. This option will be chosen if water quality in the open pit substantially meets CCME guidelines.

6.4.12.3 Long-term Stability

Preservation of the permafrost between the open pit and the channel is of utmost importance. Failure to do so could result in seepage losses toward the future pit wall resulting in thermal degradation and possible pit wall instability. In order to avoid seepage losses, the upgradient and pit side embankment of the C1 Diversion is dimensioned with minimum 5 m wide running surface to permit heavy equipment traffic and to positively preserve and aggrade permafrost. Furthermore, an approximate 2 m insulating sand and gravel/rock cover will be used in the zone between Reach C and the pit crest in areas suspected to contain high levels of ground ice. Fills used for the embankment adjacent to the channel will be chosen selectively to provide low permeability when frozen to act as a natural liner/cutoff. Geothermal and hydrogeological considerations determine the berm dimensions and therefore the berm dimension will exceed those that would be required to control runoff if the channel was simply lined with a geosythetic liner.

Stability is not an issue of Stream C1's natural channel can be re-established.

The C1 Diversion is designed as a very stable structure. Reach A is cut in bedrock (see discussion in Section 2) and Reach B is designed to handle flood conditions, is rock armoured and stable. Reach C is composed of meanders which will have stabilized to a natural channel prior to the pit overflowing. Reach C was constructed so as to preserve natural vegetation and is inherently stable. Stability of the facility will be visually monitored throughout mine life and the closure and post closure period until the pit overflows.

6.4.13 Infrastructure

6.4.13.1 Final Configuration

Structures at mine closure will include:

- the accommodation and mine office;
- diamond plant;
- the fuel farm;
- airport and generator day tanks;
- generator;
- the emulsion plant;
- the explosives magazines;
- truck shop;
- freshwater intake pump house, and
- airstrip generator and storage sheds.

Any salvageable structures that are not required for the underground mining phase will be backhauled off site during the winter resupply. If not salvageable, structures will be demolished, decontaminated if required, and buried in the waste rock dump. All hazardous materials will be backhauled off site to a contaminated waste contractor for disposal or return to suppliers (e.g., oil cubes; barrels). This procedure will serve to reduce somewhat the amount of material to deal with at final closure.

Upon closure remaining structures will be removed and the sites graded. All buildings will be torn down. Smaller demolition scrap will be placed on the edge of the waste dumps and covered during final resloping efforts. Large volume demolition scrap will be placed in the open pit and covered with waste rock. Foundations will be covered with top dressing materials. The fuel farm tanks will be emptied into tanker trucks, decontaminated, disassembled and buried in the open pit, as will all warehousing and trailers. The explosives magazine trailers (steel bulk shipping containers) will be removed. Pipes will be removed from the water intake causeway and buried.

Non-salvageable scrap metal left at closure will also be placed in the waste dumps and covered. Any supplies, such as ammonium nitrate, will be removed at the time the emulsion plant building is removed. All necessary removal of infrastructure will take place the first winter of final closure, thus obviating the necessity of constructing the winter road beyond the end of mine life plus one year.

All mine-related mobile equipment will be trucked out on the winter road the first opportunity after completion. Since the equipment will belong to the mine contractors, this will be the contractor's responsibility. Tahera Diamond Corporation, as holder of the land leases for the site, will however retain ultimate responsibility for removal of equipment from Jericho.

All pads used for buildings will be scarified, topdressed, and possibly revegetated as previously discussed.

Most of the mine camp, including trailer modules will be removed on final closure or demolished and buried as scrap in the open pit. Portable housing, such as tents which can be flown off site by aircraft, will be used by reclamation crews once buildings are removed. Alternately, if a third party agrees to assume the land lease for the camp, the applicable part of the mine camp will be retained and signed over to the third party assuming the land lease.

6.4.13.2 Alternatives Considered

Alternatives for closure will be either:

- Demolition and burial in the waste rock dumps where industrial waste will freeze permanently and in an area that drains naturally to the open pit until freezing occurs; or
- removal off site. All hazardous materials will be removed off site to a hazardous waste contractor.

6.4.13.3 Estimated Volume of Demolition Waste

The estimate provided in this section assumes all structures will be left at closure, none will be salvaged and all structures will be torn down to minimize dead spaces. The estimate also assumes that building contents will be salvageable and taken off site. The estimate is provided in Table 6-6.

Table 6-6: Volume Estimate for Demolition Industrial Waste

Structure	**Volume Estimate (m^3)**
Accommodation complex	3300
Diamond plant + truck shop	1570
Vertical fuel tanks	50
Day tanks	Not applicable; backhauled off site
Generator	Not applicable; backhauled off site
Emulsion plant	490
Miscellaneous small buildings	720
Allowance for air voids (25%)	1532
Total	**7662**

6.4.14 Soils Testing

Any soils suspected of being contaminated (stained) with petroleum hydrocarbons, and not previously remediated, will be tested and those not meeting criteria for CCME industrial land use in place at the time of mine closure will be remediated. Soils would be transported off site by truck during the first year after mine closure, or later by aircraft if required. Any spills in areas where additional routine spills are unlikely to occur will be decontaminated prior to end of active mining.

7.0 MINE ABANDONMENT

Mine abandonment refers to the stage at which all reclamation activities aimed at rehabilitation and stabilization have been completed, all infrastructure removed (or transferred to third parties to manage and the only activity is post closure monitoring.

The conceptual site layout at closure is provided in Drawing 2, Appendix A. The objectives of the abandonment plan are as follows:

- show the abandonment condition of the mine site;
- show the final drainage plan; and
- provide the monitoring plan after abandonment.

7.1 Infrastructure

Infrastructure remaining at abandonment will depend on the intended use of the site. Assuming complete closure, all buildings will have been removed, all roads and the airstrip rehabilitated and permanently stabilized against erosion. At the election of Transport Canada, or other government agency, the airstrip may be left intact, likely with removal of the landing lights and associated cabling. The generator and airstrip outbuilding will be removed. The airstrip will only remain if the federal land lease for the airstrip can be terminated by Tahera while leaving an un-reclaimed airstrip.

7.2 Drainage Controls

Natural drainage patterns will be re-established at closure to the extent possible. At abandonment all drainage systems will be confirmed to be stable. The Stream C1 diversion channel will remain intact to ensure the lower end of the stream does not dewater. The diversion dike will be stabilized for long-term maintenance-free operation either by having sufficient vegetation established during its lifetime, or more likely given climatic conditions, by additional armouring with rip rap. Mine area runoff water will be directed to the open pit. Figure 7-1, from EBA (2006), shows conceptual closure drainage. The mine layout shown is approximate and may change; subsequent updates to this plan will reflect any changes to the time of the update.

7.3 Sedimentation Ponds

Sedimentation ponds will be removed on closure and all water directed to the pit until CCME guidelines attainment is demonstrated to the satisfaction of regulators. Reclamation of sedimentation ponds will consist of berm removal (by spreading till used in their construction and removing any liners, if present) and pond surface revegetation as indicated from reclamation trials.

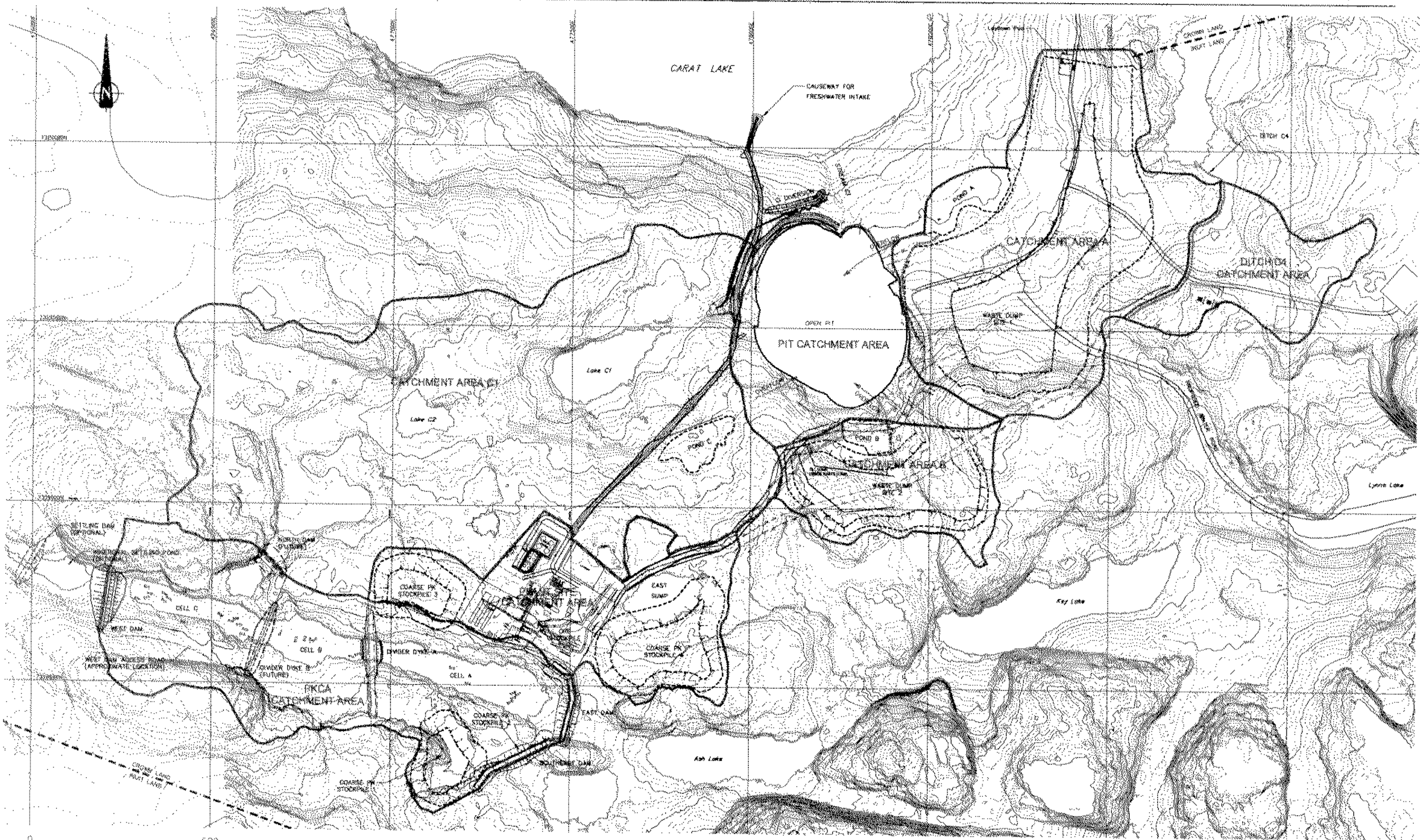


Figure 7-1

Figure 2
Jericho Mine Catchment Areas

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